UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
NGUYEN, TOAN D

ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/546,052	WEINSTEIN ET AL.
	Examiner	Art Unit	
	Toan D Nguyen	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>15 July 2004</u> .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>21-54</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>21-54</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>10 April 2000</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6) ☐ Other:

DETAILED ACTION

Claim Objections

1.   Claims 21-22 and 46-47 are objected to because of the following informalities:

In claim 21 line 3, "a" (second occurrence) should be deleted.

In claim 22 line 6, change "." to ";" because claim can not have more than one period except for abbreviation.

In claim 22 line 7, typographical error "high" and "high" should be changed to "higher".

In claim 46 line 4, "a" (second occurrence) should be deleted.

In claim 47 line 6, change "." to ";" because claim can not have more than one period except for abbreviation.

In claim 47 line 7, typographical error "high" and "high" should be changed to "higher". Appropriate correction is required.

Claim Rejections - 35 USC § 112

2.   Claims 21, 29, 37 and 46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 21 line 10, it is unclear as to what is meant by "forming higher layer protocol adjacencies with the subset of nodes". Similar problem exists in claim 46 line 6. The scope is, thus, unascertainable.

In claim 29 line 8, it is unclear as to what is meant by "the higher layer protocol forms higher layer protocol adjacencies with the nodes in the subset". The scope is, thus, unascertainable.

In claim 37 line 6, it is unclear as to what is meant by "a higher layer protocol module for forming higher layer protocol adjacencies with the subset of nodes". The scope is, thus, unascertainable.

3.   For the purpose of art rejection, the examiner assumes that forming higher layer protocol adjacencies with the subset of nodes refers to communication between higher layer and lower layer in those nodes.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 21-26, 28-30, 32-34, 36-39, 41-43, 45-48, 50-52 and 54 are rejected under 35 U.S.C. 102(e) as being anticipated by Li (US 6,385,174).

For claim 21, Li discloses method and apparatus for transmission of node link status messages throughout a network with reduced communication protocol overhead traffic, comprising:

processing lower layer protocol topology information received at a router (a node means) on a first subnetwork (figure 1A, col. 3 line 61 to col. 4 line 2), the topology information including a set of nodes (figure 1A, reference 10) on the first subnetwork (col. 3 line 61 to col. 4 line 2) and a subset of the nodes (figure 1A, col. 4 lines 5-11) that are lower layer protocol

(figure 1A, col. 4 lines 31-34) next-hop neighbors to the router (figure 3, col. 7 line 44 to col. 8 line 19); and

forming higher layer protocol (reference OSPF, col. 1 lines 49-56) adjacencies with the subset of nodes based on the processed lower layer topology information (figure 1A, col. 4 lines 5-11) for the flooding of higher layer routing information among the set of nodes on the subnetwork (col. 2 lines 6-17, col. 5 lines 10-20 and col. 8 lines 42-44);

receiving updated lower layer protocol topology information (figure 3, reference step 50, col. 7 lines 46-47);

processing the updated lower layer protocol information (figure 3, reference steps 52-68, col. 7 line 55 to col. 8 line 19); and

changing the higher layer protocol (reference OSPF) adjacencies based on the processed updated lower layer protocol topology information (col. 5 lines 10-20).

For claim 22, Li discloses further comprising:

generating, for the higher layer protocol (reference OSPF), routing information describing the set of nodes on the subnetwork based upon the processed lower-layer topology information(figure 2, reference step 34, col. 6 lines 49-52); and

advertising, using the higher layer protocol (reference OSPF), the generated routing information to at least one node located on the second subnetwork (col. 5 lines 10-14),

generating, for the higher layer protocol (reference OSPF), updating routing information based on the processed updated lower layer protocol topology information (figure 2, reference step 34, col. 6 lines 49-52); and

advertising using the higher layer protocol (reference OSPF), the generated updated

routing information to at least one node located on the second subnetwork (col. 5 lines 10-14).

For claim 23, Li discloses wherein the higher layer protocol is compatible with OSPF at

the second subnetwork (col. 1 lines 49-52).

For claim 24, Li discloses wherein the higher layer protocol is an Internet routing

Protocol (col. 1 lines 49-52).

For claim 25, Li discloses wherein the higher layer protocol includes the topology

information used by OSPF (col. 1 lines 63-66).

For claim 26, Li discloses wherein the first subnetwork is a radio network (figure 1A, col.

3 lines 61-65).

For claim 28, Li discloses wherein the nodes on the first subnetwork are mobile (col. 5

lines 1-4).

For claim 29, Li discloses method and apparatus for transmission of node link status

messages throughout a network with reduced communication protocol overhead traffic,

comprising:

a plurality of nodes (figure 1A, reference 10) in communication with one another via a

first transmission medium forming a first subnetwork (col. 3 line 61 to col. 4 line 2);

a lower layer protocol (figure 1A, col. 4 lines 31-34) for generating lower layer protocol

topology information at a router (a node means) within the first subnetwork including a set of

nodes on the first subnetwork (figure 1A, col. 3 line 61 to col. 4 line 2) and a subset of the nodes

(figure 1A, col. 4 lines 5-11) that are lower layer protocol (figure 1A, col. 4 lines 31-34) next-

hop neighbors to the router (figure 2, reference step 34, col. 6 lines 43-52); and

a processor for processing the lower layer protocol topology information to provide the

topology information to a higher layer protocol (figure 2, col. 6 lines 43-45), wherein the higher

layer protocol (reference OSPF) forms higher layer protocol adjacencies with the nodes in the

subset (col. 1 lines 49-54) based on the processes lower layer topology information for the

flooding of higher layers routing information among the set of nodes on the subnetwork (figure

2, reference step 34, col. 2 lines 6-17, col. 6 lines 43-52 and col. 8 lines 42-44).

For claim 30, Li discloses further comprising:

a second transmission medium connecting the first subnetwork to a second subnetwork

(col. 1 lines 49-52); and

an advertiser for advertising, using the higher layer protocol, the generated routing

information to at least one node located on the second subnetwork (col. 2 lines 1-10).

For claim 32, Li discloses wherein the higher layer protocol is compatible with OSPF at

the second subnetwork (col. 1 lines 49-52).

For claim 33, Li discloses wherein the higher layer protocol includes the topology

information used by OSPF (col. 1 lines 63-66).

For claim 34, Li discloses wherein the first subnetwork is a radio network (figure 1A, col.

3 lines 61-65).

For claim 36, Li discloses wherein the nodes on the first subnetwork are mobile (col. 5

lines 1-4).

For claim 37, Li discloses method and apparatus for transmission of node link status

messages throughout a network with reduced communication protocol overhead traffic,

comprising:

a lower layer protocol module (figure 1A, col. 4 lines 31-34) for processing lower layer protocol topology information received at a router (a node means) corresponding to a first subnetwork on which the router resides (figure 1A, col. 3 line 61 to col. 4 line 2), the topology information including a set of nodes (figure 1A, reference 10) on the first subnetwork (col. 3 line 61 to col. 4 line 2) and a subset of the nodes (figure 1A, col. 4 lines 5-11) that are lower layer protocol (figure 1A, col. 4 lines 31-34) next-hop neighbors to the router (figure 3, col. 7 line 44 to col. 8 line 19); and

a higher layer protocol module (reference OSPF, col. 1 lines 49-56) for forming higher layer protocol adjacencies with the subset of nodes based on the processed lower layer topology information (figure 1A, col. 4 lines 5-11) for the flooding of higher layer routing information among the nodes on the subnetwork (figure 3, col. 2 lines 6-17, col. 7 line 44 to col. 8 line 19 and col. 8 lines 42-44).

For claim 38, Li discloses wherein the higher layer protocol module further generates, for the higher layer protocol, routing information describing the set of node on the first subnetwork based upon the processed lower-layer topology information (col. 1 lines 49-54), and advertises, using the higher layer protocol, the generated routing information to at least one node located on a second network (col. 1 lines 49-52 and col. 2 lines 1-14).

For claim 39, Li discloses wherein the higher layer protocol is compatible with OSPF at the second subnetwork (col. 1 lines 49-52).

For claim 41, Li discloses wherein the higher layer protocol is an Internet routing Protocol (col. 1 lines 49-52).

For claim 42, Li discloses wherein the higher layer protocol includes the topology

information used by OSPF (col. 1 lines 63-66).

For claim 43, Li discloses wherein the first subnetwork is a radio network (figure 1A, col.

3 lines 61-65).

For claim 45, Li discloses wherein the nodes on the first subnetwork are mobile (col. 5

lines 1-4).

For claim 46, Li discloses method and apparatus for transmission of node link status

messages throughout a network with reduced communication protocol overhead traffic,

comprising:

processing lower layer protocol topology information received at a router (a node means)

on a first subnetwork (figure 1A, col. 3 line 61 to col. 4 line 2), the topology information

including a set of nodes (figure 1A, reference 10) on the first subnetwork (col. 3 line 61 to col. 4

line 2) and a subset of the nodes (figure 1A, col. 4 lines 5-11) that are lower layer protocol

(figure 1A, col. 4 lines 31-34) next-hop neighbors to the router (figure 3, col. 7 line 44 to col. 8

line 19); and

forming higher layer protocol (reference OSPF, col. 1 lines 49-56) adjacencies with the

subset of nodes based on the processed lower layer topology information (figure 1A, col. 4 lines

5-11) for the flooding of higher layer routing information among the set of nodes on the

subnetwork (col. 2 lines 6-17, col. 5 lines 10-20 and col. 8 lines 42-44);

receiving updated lower layer protocol topology information (figure 3, reference step 50,

col. 7 lines 46-47);

processing the updated lower layer protocol information (figure 3, reference steps 52-68, col. 7 line 55 to col. 8 line 19); and

changing the higher layer protocol (reference OSPF) adjacencies based on the processed updated lower layer protocol topology information (col. 5 lines 10-20).

For claim 47, Li discloses further comprising:

generating, for the higher layer protocol (reference OSPF), routing information describing the set of nodes on the subnetwork based upon the processed lower-layer topology information(figure 2, reference step 34, col. 6 lines 49-52); and

advertising, using the higher layer protocol (reference OSPF), the generated routing information to at least one node located on the second subnetwork (col. 5 lines 10-14),

generating, for the higher layer protocol (reference OSPF), updating routing information based on the processed updated lower layer protocol topology information (figure 2, reference step 34, col. 6 lines 49-52); and

advertising using the higher layer protocol (reference OSPF), the generated updated routing information to at least one node located on the second subnetwork (col. 5 lines 10-14).

For claim 48, Li discloses wherein the higher layer protocol is compatible with OSPF at the second subnetwork (col. 1 lines 49-52).

For claim 50, Li discloses wherein the higher layer protocol is an Internet routing Protocol (col. 1 lines 49-52).

For claim 51, Li discloses wherein the higher layer protocol includes the topology information used by OSPF (col. 1 lines 63-66).

For claim 52, Li discloses wherein the first subnetwork is a radio network (figure 1A, col.

3 lines 61-65).

For claim 54, Li discloses wherein the nodes on the first subnetwork are mobile (col. 5

lines 1-4).

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

7.   This application currently names joint inventors. In considering patentability of the

claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c)

and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7.   Claims 27, 31, 35, 40, 44, 49 and 53 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Li (US 6,385,174) in view of Dervarics (US 6,553,240).

For claims 27, 31, 40, 44, 49 and 53, Li discloses wherein nodes of the first subnetwork

are in communication with each other using a first transmission medium (figure 1A, col. 3 line

61 to col. 4 line 2), the first subnetwork is in communication with a second subnetwork using a

second transmission medium (col. 1 lines 52-54).

However, Li does not disclose wherein the first transmission medium has a lower bandwidth than the second transmission medium. In an analogous art, Dervarics discloses wherein the first transmission medium has a lower bandwidth than the second transmission medium (col. 3 lines 48-50). Dervarics further discloses wherein the first transmission medium has a lower bandwidth than the second transmission medium (col. 3 lines 48-50 as set forth in claims 31, 40).

One skilled in the art would have recognized the first transmission medium has a lower bandwidth than the second transmission medium to use the teachings of Dervarics in the system of Li. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the first transmission medium has a lower bandwidth than the second transmission medium as taught by Dervarics in Li's system with the motivation being to provide WAP that brings Internet content and advanced data services to cellular terminals (col. 3 lines 57-58).

For claim 35, Li discloses wherein the first subnetwork is in communication with a second subnetwork using a second transmission medium (col. 1 lines 52-54).

However, Li does not disclose wherein the first transmission medium has a lower bandwidth than the second transmission medium. In an analogous art, Dervarics discloses wherein the first transmission medium has a lower bandwidth than the second transmission medium (col. 3 lines 48-50).

One skilled in the art would have recognized the first transmission medium has a lower bandwidth than the second transmission medium to use the teachings of Dervarics in the system of Li. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

invention, to use the first transmission medium has a lower bandwidth than the second

transmission medium as taught by Dervarics in Li's system with the motivation being to provide

WAP that brings Internet content and advanced data services to cellular terminals (col. 3 lines

57-58).

Response to Arguments

8.   Applicant's arguments with respect to claims 21-54 have been considered but are moot in

view of the new ground(s) of rejection.

Contact Information

9.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Toan D Nguyen whose telephone number is 703-305-0140. The

examiner can normally be reached on Monday- Friday (7:00AM-4:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mr. Huy Vu can be reached on 703-308-6602. The fax phone numbers for the

organization where this application or proceeding is assigned are 703-872-9314 for regular

communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 703-305-9600.

TN
TN

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